aquasens^{sh}

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in cooperation with:

DELTAMESS DWWF GmbH

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measuring and control technology - automation - industry

heating installation - climate - sanitary

special meter - special solutions

Flow measuring device „Kapselsystem KEs“

electronic series

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The modern modular flow measuring casing system:

Modular: The system is composed of a single pipe connector and a measuring insert. Depending on it ‘s use different measuring inserts can be selected:

- Flow measuring device
- Water meter
- Heat meter
- Special accessiories

The single pipe connector is available in regular mounting dimensions used in plumbing trade:

- 3/4 “ outside screw thread
- Installation length: 110 mm
- (Unique selling proposition: 2 integrated PTFE stop valves into the single pipe connector are available. 1 “ 130mm.)

Costs : incurred costs are minimal. In case of replacement only the measuring insert have to swap. The single pipe conn could remain in the system.

Health: The casing System is constructed dead space free. There is no trapped volume to give birth to bacteria or Legionellae.

Fitness: Drinking water, heating-circuit water.

Quality: The product is assembled by German Drinking Water Ordinance.
Guidelines:

- DVGW (German Technical and Scientific Association for Gas and Water).
- KTW (Kunststoffe im Trinkwasser. engl: Plad drinking stics anwater).
- ROHS conform.
- The flow measuring devices are quality controled and assembled in Germany.

Usage: The high impulse ratio of 79 Imp./L allows sensitiv volumetric dosing, metering and controling. Lower impulse ratiosare usual requested heating and solar sector. For those we can supply 0,5 L/Imp., 1 L/Imp. and 10 L/Imp.

Availability: From continuous production.

Customized flow measuring devices and sensors on demand.

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Das Komplettprogramm für Wasser und Wärme
web: http://www.ees-hartz.de/

Flow measuring device Kapselsystem KEs

electronic series Datasheet

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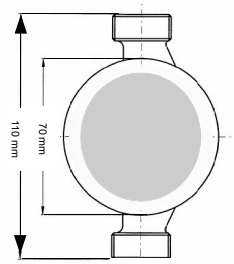
These flow measuring device is manufactured according to the standards of the DVGW* and particulary suitable for drinking water applications. The high impulse ratio of 79 Imp./L allows sensitiv volumetric dosing and controling. Cause of the SPS and TTL compatibility the flow measuring device can be easily integrated into existing systems. A high metering precision of +/- 2% with an reproducibility of +/- 0,8 % (under same conditions, water 20°C) offers a wide range of application possibilities.

*DVGW: Deutscher Verein des Gas + Wasserfaches (German Technical and Scientific Association for Gas and Water)

Electrical Specifications:

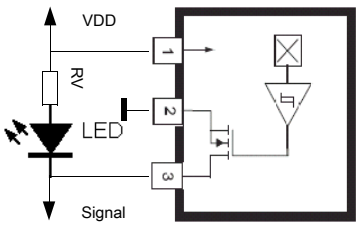
Electric connection	4 - 24 Volt DC | Brown = VDD | White= GND | Green = Signal (NPN 15 mA / 24V)
Measuring Principle	Turbine, contact - free measurement, Sensor waterproof obstructed
Fitting position	horizontal or vertical in direction of arrow
Operating pressure	max. 10 bar
Screw thread	3/4 " outside screw thread
Temperature range	up to 90° Celsius
Q_{max}	the value Q_{max} = (2 x Q_n) max. 100h/a
Installation length	110 mm x 3/4 "

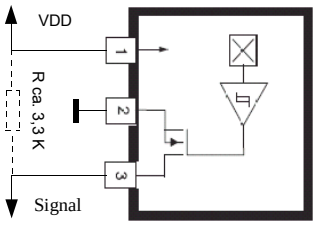


Type	Q_n [L/h]	DN	Flow range [L/h]	Start-up [L/h]	[Imp./L]	Instalation length [mm]	P_d (Q_n) [bar]
KEs 79	1500	15	20 - 1500	ca. 15	ca. 79	110	0,2

P_d :Pressure drop

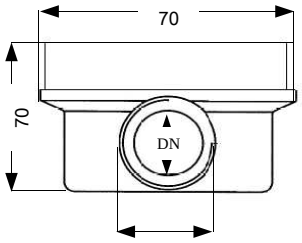
Wiring:





1= VDD (Brown) 2= GND (White) 3= Signal (Green)

Measure in [mm]:



Srew thread

Installation: To eliminate any debris the unit is flushed well before the flow measuring deviceie is built-in. It is strongly recommended to use a trotective strainer in front of the flow measuring device. A ball valve in front of and behind the flow measuring device simplifies maintenance jobs.

Attention: Do not connect the appliance to live wire. It ' s recommended that the flow measuring device is located well away from any electrical or magnetic „ n oisy " apparatus.

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Technische Daten / Technical spezification

Wasser Durchflussmesser - Water Flowmeter

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Gemeinsame Technische Daten / General technical data (Messkapsel / Measurement housing)

Medientemperatur	Running temperature:	0 - 90°C
Umgebungstemperatur	Ambient Temperature	50°C
Betriebsdruck	Continuous Pressure:	12 bar
Berstdruck	Burst Pressure	> 60 bar
Mediumviskosität	Viscosity	0,8 - 10 mPas
Dichtheitstest: 4 Wochen	Hydrostatic Test: 4 Weeks	Wasserdicht / Waterproof (Sensor)
Isolationstest	Insulation Test Voltage	VDD to GND 500 V
Dauerlast	Permanent Flowrate	25 L/min (1500 L/h)
Kurzzeitige Überlast	Short overload Flowrate	50 L/min (3000 L/h)
Kleinster Durchfluss	Minimal Flowrate	ca. 0,3 L/min (20 L/h)
Druckverlust	Fall of Pressure	O,2 Bar (1500 L/h)
Abtastsystem	Sensing Prinziple	Halleffekt
Ausgangssignal	Output: Sqare wave 50%	NPN / Open Collektor
Impulse pro Liter	Pulse rate / Litre	ca. 79
Messprinzip	Measaurement Principle	Turbine
Einbaulage	Installation Position	Horizontal / Vertikal (nicht über Kopf, not over Head)
Messgenauigkeit	Accuracy	2 %
Wiederholbarkeit	Repeatabillity	0,8 % (unter gleichen Bedingungen - under same conditions)
		Material
Gehäuse EAT	Body	Messing Me
Flügelrad	Rotor	PPR (wärmestabilisiert , Heat stabilized)
Dichtwerkstoffe	Sealing Material	EPDM / Silicon
Messgehäuse (Kapsel)	Measurement housing	PPE GF30
Lagerung	Bearing	RCL - Nivapoint - Saphirkalotte
Lagerstift	Bearing Pin	VA

Anwendungsbereich: Wasser, wässrige, chemisch nicht aggressive Medien

Application Area: Water, Aqueous solution, not chemical aggressive Media.

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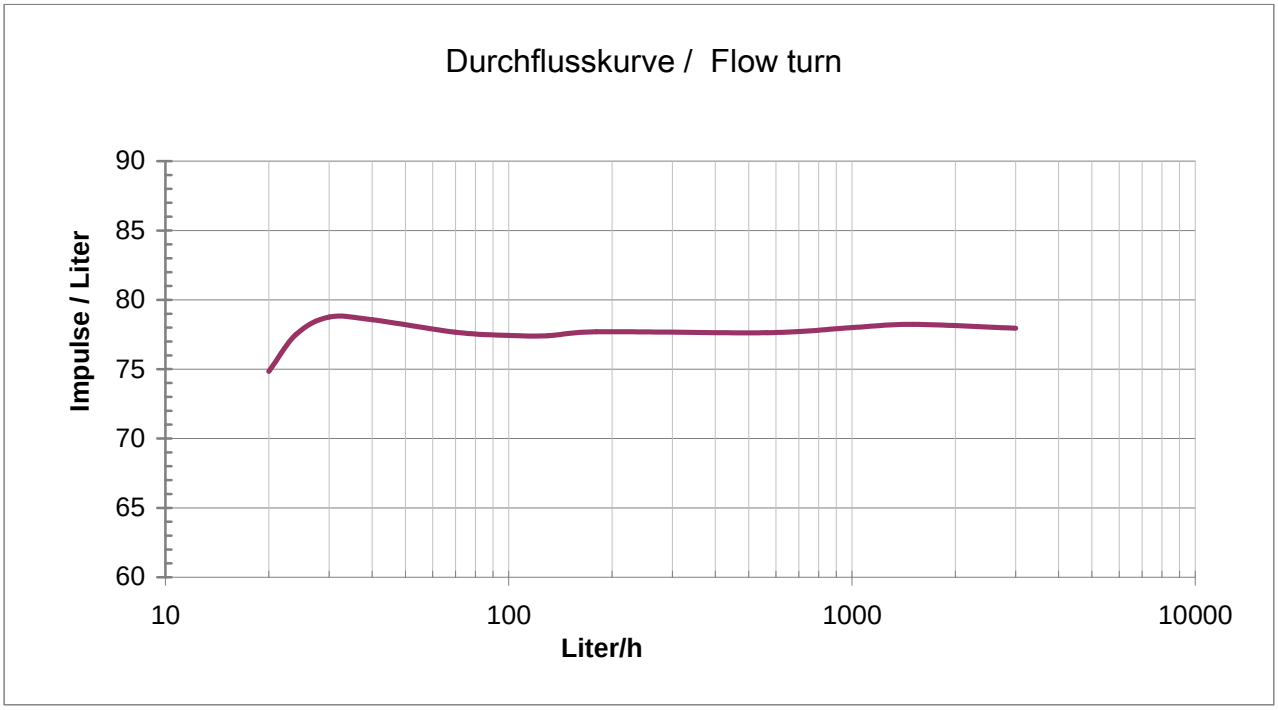

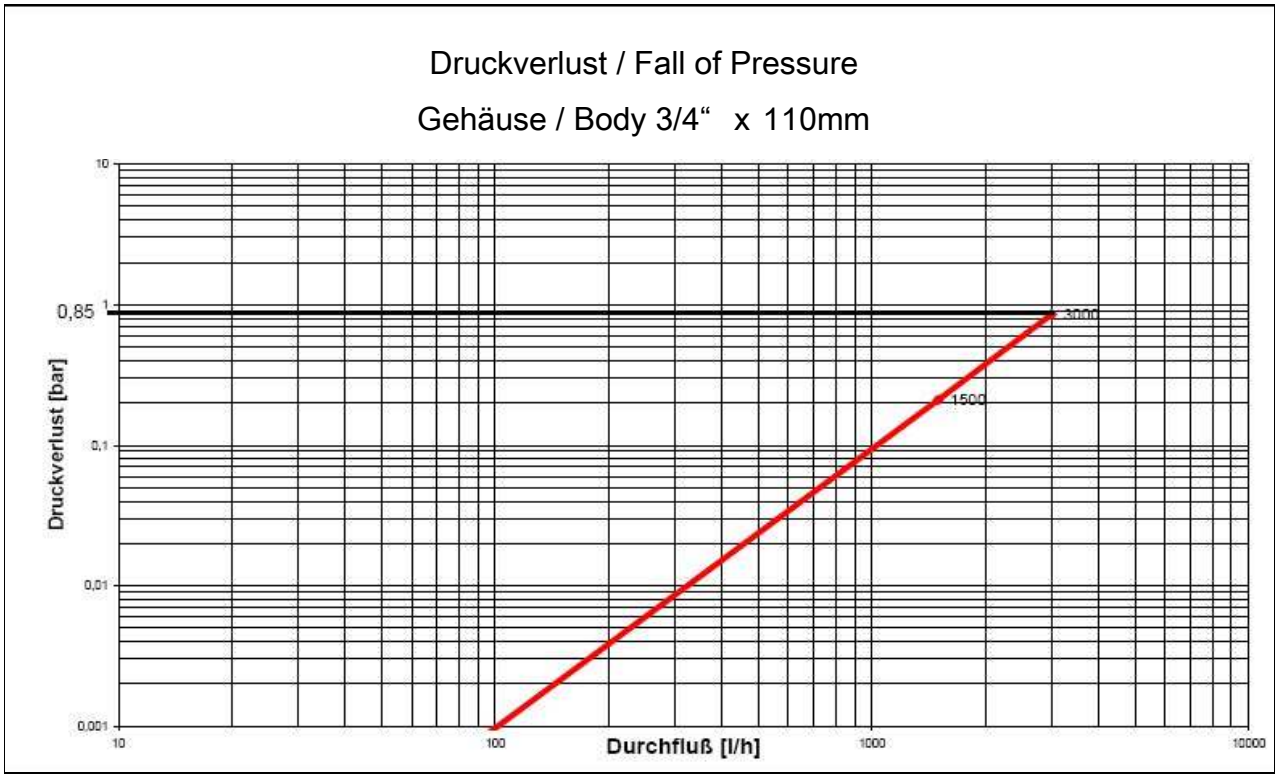

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